

# Forged High Pressure Ball Valves

## SBVF360 Series

### Features

- Compact design
- Low operating torques
- Panel mountable
- Floating ball design
- Two-way and Three way types
- Handle direction indicates flow direction



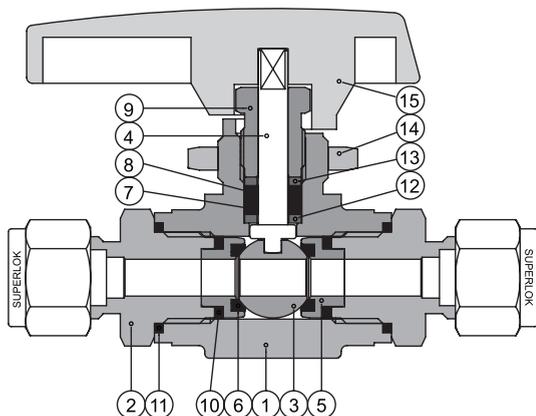
### Specifications

Temperature Ratings	316 Stainless Steel	: -65°F to 1200°F (-53°C to 648°C)
	PCTFE	: -65°F to 200°F (-53°C to 93°C)
	PTFE	: -65°F to 350°F (-53°C to 177°C)
	PEEK	: -65°F to 450°F (-53°C to 232°C)
	NBR	: -40°F to 250°F (-40°C to 120°C)
	VITON	: -15°F to 450°F (-26°C to 232°C)
Orifice Size	From 0.086" to 0.406" (2.2mm to 10.3mm)	
Flow Coefficients (Cv)	From 0.18 to 6.42	
End Connection Size	From 1/8" to 3/4", 3mm to 16mm	
Pressure Ratings at 100°F(37°C)	316 Stainless Steel	: 6000 psig (413 bar)
	BRASS	: 3000 psig (207 bar)

### Testing

- Each and every valve is tested with nitrogen at 1000psig (69bar).
- Valve have max allowable leak rate of 0.1 cm<sup>3</sup>/min.
- Shell testing is performed on demand.

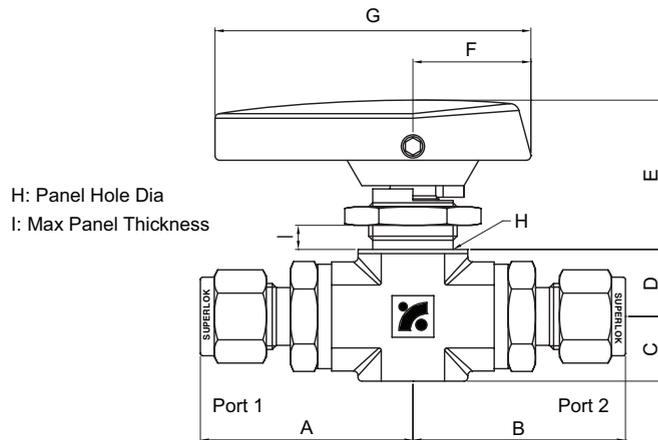
### Materials of Construction



Component	Material Grade / ASTM Specification		
	Stainless Steel	Brass	
*1	Body	ASTM A182-F316	ASTM B283
*2	End Connector	ASTM A276-316	ASTM B16
*3	Ball	ASTM A276-316	
*4	Stem	ASTM A276-316	
*5	Seal Retainer	ASTM A276-316	
*6	Seat	Standard PCTFE (PTFE,PEEK)	
*7	Lower Packing	PTFE	
*8	Upper Packing	PTFE	
9	Packing Bolt	ASTM A276-316	
*10	O - Ring	VITON	
*11	Connector Seal	PTFE	
*12	Thrust Washer	PEEK	
13	Stem Washer	ASTM A276-316	
14	Panel Nut	ASTM A276-316	
15	Handle	Aluminum	

\*Wetted components are marked \*\*

SBVF Series



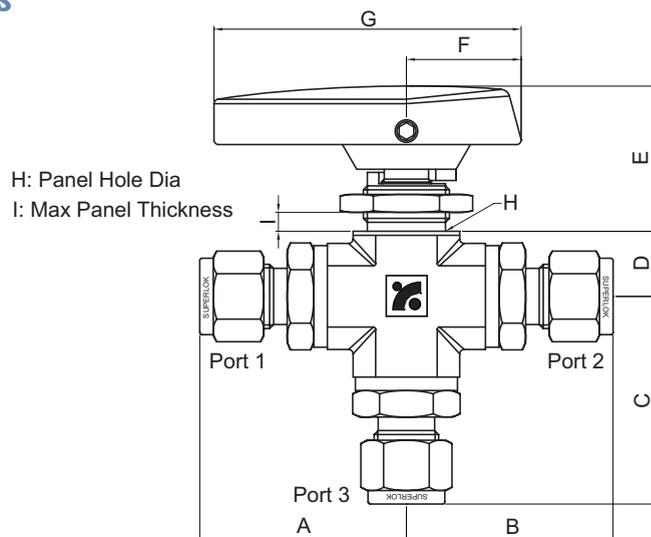
Two - Way Type

Table of dimensions

Part Number	Orifice In.(mm)	Cv	End Connections Port1 / Port2	Dimensions									
				A	B	C	D	E	F	G	H	I	
SBVF 3601	S2	0.093(2.4)	0.21	1/8" SUPERLOK	34.5	34.5	10.0	10.5	23.5	18.0	47.0	16.3	3.3
	S4	0.165(4.2)	0.93	1/4" SUPERLOK	37.6	37.6							
	S3M	0.086(2.2)	0.18	3mm SUPERLOK	34.8	34.8							
	M2N	0.165(4.2)	0.93	1/8" MALE NPT	29.9	29.9							
	M4N	0.165(4.2)	0.93	1/4" MALE NPT	34.3	34.3							
	F2N	0.165(4.2)	0.93	1/8" FEMALE NPT	27.2	27.2							
SBVF 3602	S4	0.189(4.8)	1.04	1/4" SUPERLOK	44.2	44.2	14.0	14.5	32.3	25.4	68.0	19.6	6.4
	S6	0.250(6.4)	2.34	3/8" SUPERLOK	45.8	45.8							
	S6M	0.189(4.8)	1.04	6mm SUPERLOK	44.5	44.5							
	S8M	0.250(6.4)	2.34	8mm SUPERLOK	45.2	45.2							
	S10M	0.250(6.4)	2.34	10mm SUPERLOK	46.0	46.0							
	M4N	0.250(6.4)	2.34	1/4" MALE NPT	41.1	41.1							
	M6N	0.250(6.4)	2.34	3/8" MALE NPT	41.1	41.1							
	F4N	0.250(6.4)	2.34	1/4" FEMALE NPT	38.4	38.4							
SBVF 3603	S8	0.406(10.3)	6.42	1/2" SUPERLOK	59.4	59.4	17.5	19.3	41.1	27.7	74.2	22.9	9.7
	S12	0.406(10.3)	6.42	3/4" SUPERLOK	59.2	59.2							
	S12M	0.375(9.5)	5.57	12mm SUPERLOK	59.2	59.2							
	S16M	0.406(10.3)	6.42	16mm SUPERLOK	59.2	59.2							
	M8N	0.406(10.3)	6.42	1/2" MALE NPT	56.4	56.4							
	F6N	0.406(10.3)	6.42	3/8" FEMALE NPT	49.5	49.5							
	F8N	0.406(10.3)	6.42	1/2" FEMALE NPT	54.6	54.6							

- Dimensions based on SUPERLOK nuts finger-tight.
- ISO Tapered Threads are available upon request
- All dimensions in millimeters unless specified as "inch". Dimension are for reference only, subject to change.

## SBVF 3 Series



**Pressure Ratings with port3 as inlet :**  
Please see Specifications of page 300

**Pressure Rating with port 1 or port 2 as inlet :**  
150 psig (10bar) at 100°F(37°C)

### Table of dimensions

Part Number	Orifice In.(mm)	Cv	End Connections Port1 / Port2 / Port3	Dimensions									
				A	B	C	D	E	F	G	H	I	
SBVF 36013	S2	0.093(2.4)	0.21	1/8" SUPERLOK	34.5	34.5	36.5	10.5	23.5	18.0	47.0	16.3	3.3
	S4	0.165(4.2)	0.63	1/4" SUPERLOK	37.6	37.6	39.6						
	S3M	0.086(2.2)	0.18	3mm SUPERLOK	34.8	34.8	36.8						
	M2N	0.165(4.2)	0.63	1/8" MALE NPT	29.9	29.9	31.9						
	M4N	0.165(4.2)	0.63	1/4" MALE NPT	34.3	34.3	36.3						
	F2N	0.165(4.2)	0.63	1/8" FEMALE NPT	27.2	27.2	29.2						
SBVF 36023	S4	0.189(4.8)	0.70	1/4" SUPERLOK	44.2	44.2	47.7	14.5	32.3	25.4	68.0	19.6	6.4
	S6	0.250(6.4)	0.87	3/8" SUPERLOK	45.8	45.8	49.3						
	S6M	0.189(4.8)	0.70	6mm SUPERLOK	44.5	44.5	48.0						
	S8M	0.250(6.4)	0.87	8mm SUPERLOK	45.2	45.2	48.7						
	S10M	0.250(6.4)	0.87	10mm SUPERLOK	46.0	46.0	49.5						
	M4N	0.250(6.4)	0.87	1/4" MALE NPT	41.1	41.1	44.6						
	M6N	0.250(6.4)	0.87	3/8" MALE NPT	41.1	41.1	44.6						
	F4N	0.250(6.4)	0.87	1/4" FEMALE NPT	38.4	38.4	41.9						
SBVF 36033	S8	0.406(10.3)	3.62	1/2" SUPERLOK	59.4	59.4	68.1	19.3	41.1	27.7	74.2	22.9	9.7
	S12	0.406(10.3)	3.62	3/4" SUPERLOK	59.2	59.2	67.9						
	S12M	0.375(9.5)	3.46	12mm SUPERLOK	59.2	59.2	67.9						
	S16M	0.406(10.3)	3.62	16mm SUPERLOK	59.2	59.2	67.9						
	M8N	0.406(10.3)	3.62	1/2" MALE NPT	56.4	56.4	65.1						
	F6N	0.406(10.3)	3.62	3/8" FEMALE NPT	49.5	49.5	58.2						
	F8N	0.406(10.3)	3.62	1/2" FEMALE NPT	54.6	54.6	63.3						

- Dimensions based on **SUPERLOK** nuts finger-tight.
- ISO Tapered Threads are available upon request
- All dimensions in millimeters unless specified as "inch". Dimension are for reference only, subject to change.

## Technical Data

### Flow Rate with 1000psig (69bar) Inlet Pressure

#### Two - Way

Cv	Pressure Drop $\Delta P$ , psig (bar)			Pressure Drop $\Delta P$ , psig (bar)		
	10 (0.7)	50 (3.5)	100 (6.9)	10 (0.7)	50 (3.5)	100 (6.9)
Water Flow @ 60°F (16°C), gpm (m <sup>3</sup> /hr)			Air Flow @ 60°F (16°C), scfm (m <sup>3</sup> /hr)			
0.93	2.9 (0.7)	6.6 (1.5)	9.3 (2.1)	92.4 (156.2)	200.3 (338.3)	272.0 (458.9)
2.34	7.4 (1.7)	16.5 (3.8)	23.4 (5.3)	231.7 (391.5)	494.2 (834.7)	657.0 (1107.9)
6.42	20.3 (4.6)	45.4 (10.3)	64.2 (14.6)	637.1 (1076.8)	1373.6 (2320.3)	1852.3 (3124.8)

#### Three - Way

Cv	Pressure Drop $\Delta P$ , psig (bar)			Pressure Drop $\Delta P$ , psig (bar)		
	10 (0.7)	50 (3.5)	100 (6.9)	10 (0.7)	50 (3.5)	100 (6.9)
Water Flow @ 60°F (16°C), gpm (m <sup>3</sup> /hr)			Air Flow @ 60°F (16°C), scfm (m <sup>3</sup> /hr)			
0.63	2.0 (0.5)	4.5 (1.0)	6.3 (1.4)	62.7 (106.0)	137.1 (231.7)	188.4 (317.9)
0.87	2.8 (0.6)	6.2 (1.4)	8.7 (2.0)	86.7 (146.6)	190.5 (321.8)	263.2 (444.4)
3.62	11.5 (2.6)	25.6 (5.9)	36.2 (8.2)	360.6 (609.5)	789.7 (1343.5)	1087.4 (1836.6)

## Ordering Information

Example: **SBVF3602 - M6N - S6 - PE - SS**

1
2
3
2
3
4
5

### 1. Valve Series

#### Two - Way

SBVF3601  
SBVF3602  
SBVF3603

#### Three - Way

SBVF36013  
SBVF36023  
SBVF36033

### 2. Port Type

S : SUPERLOK Tube Fitting  
M : Male Pipe Thread  
F : Female Pipe Thread

### 3. Port Size

#### Tube O.D Designation

Tube O.D (inch)	1/16	1/8	1/4	3/8	1/2	3/4
Designation	1	2	4	6	8	12
Tube O.D (mm)	3	6	8	10	12	16
Designation	3M	6M	8M	10M	12M	16M

#### Pipe Thread Designation

Size (inch)	1/8	1/4	3/8	1/2	3/4
Screwed NPT	2N	4N	6N	8N	12N
Screwed BSPT	2R	4R	6R	8R	12R

### 4. Seat Material

Blank : PCTFE  
PE : PEEK

### 5. Body Material

SS : 316 Stainless Steel  
B : Brass

## Examples

#### ex1) SBVF3602 - S6 - B

2-Way valve / Port1: SUPERLOK 3/8" / Port2: SUPERLOK 3/8" / PCTFE Seat / Brass body

#### ex2) SBVF36023 - S6 - PE - SS

3-Way valve / Port1, 2, 3: SUPERLOK 3/8" / PEEK Seat / 316 Stainless steel body

#### ex3) SBVF36023 - S6 - F4N - SS

3-Way valve / Port1, 2: SUPERLOK 3/8" / Port 3: 1/4" NPT Female / PCTFE Seat / 316 Stainless steel body

#### ex3) SBVF36023 - S4 - S6 - F4N - SS

3-Way valve / Port 1: SUPERLOK 1/4" / Port 2: SUPERLOK 3/8" / Port 3: 1/4" NPT Female / PCTFE Seat / 316 Stainless steel body